NOSSAMAN
GUTHNER
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PROJECT DELIVERY STRATEGIES

FOR THE

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

FINAL REPORT

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

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Table of Contents

Executive Summary

Procurement Strategy for the California High-Speed Rail System

Nossaman, Guthner Knox & Elliott, LLP

The California High-Speed Rail Authority ("Authority") engaged Nossaman, Guthner, Knox & Elliott, LLP, together with Robinson & Pearman and Jackie Bacharach, as subconsultants to Public Financial Management, Inc.("PFM"), to assist it in developing the most cost effective project delivery strategy for the development, financing, construction and operation of the California High-Speed Rail System. The financial plan prepared by PFM is based upon certain assumptions, including that project's institutional structure and is designed to minimize the State's risks associated with construction costs, scheduling, environmental process, federal, state and local requirements, right of way acquisition and other issues that have proven to be cost escalators and time delays for other major capital projects.

The objectives of the project delivery strategy should be to:

- support the key assumptions underlying the financial plan;
- build voter confidence in the Authority's ability to deliver the project; and
- optimize the allocation of responsibility and risk among the Authority, contractors, bondholders and other project participants.

As the first step in this task, Nossaman submitted to the Authority in January 1999 an Update of the Project Delivery Analysis it had prepared for the California Intercity High Speed Rail Commission in 1966. In the 1999 Update, we reviewed and analyzed the project delivery mechanisms employed by nine of the world's largest transportation projects with elements comparable to the proposed California High-Speed Rail System. These include the Taiwan High Speed Rail Project, Florida's High Speed Rail Project, New Jersey and Puerto Rico's DBOM rail transit projects, the Alameda Mid-Corridor Project, the San Joaquin Hills, Eastern and Foothill Toll Roads, Utah's I-15 Reconstruction, the Las Vegas Monorail and Virginia's 895 Connector.

As the second step, we have also worked over the last year with the Authority's Corridor Evaluation Team and Financial Team to identify key factors that will underpin the development of successful procurement strategies for High Speed Rail in

California. These discussions identified the following key elements:

- an estimated capital cost in excess of $25 billion requiring significant public funding,
- a development and construction period of approximately 16 years, including a lengthy and complex environmental process,
- projected ridership and revenues sufficient to support operation and maintenance without further public subsidy,
- deployment of proprietary advanced technologies, and
- a desire to establish farebox policies that will optimize user benefits rather than just maximizing system revenues.

Based upon these elements, we concluded that the Authority's procurement plan must address the following major issues: (1) whether the High-Speed Rail ("HSR") system should be procured through a single concession arrangement or through multiple contract packages for preliminary design, construction services and long-term operation and management; (2) how much design work to perform prior to procuring major private sector partners and whether any such contract or contracts should be procured before or after completion of the environmental process; and (3) what form of contract and what procurement methodology to use for each contract. Drawing on the "lessons learned" from the other projects reviewed, and analyzing them in the light of the particular defining factors of the HSR project, we recommend that the Authority's procurement strategy should incorporate the following elements:

- The procurement plan should seek to maximize private sector participation and risk taking, in a manner consistent with maintaining full accountability for the use of public funds.

- Limitations on the sources of funding will require, among other things, fixed price construction contracts with completion-date and long-term operating guarantees that can be achieved through the utilization of design-build and design-build-operate-maintain forms of contracting.

- In order to obtain optimum price completion, the Authority should not seek to award a "franchise" or other contracts for construction and operation until completion of the environmental process so that costs proposals can be based on a final alignment and project scope.

- To help insure a realistic timeframe to complete environmental reviews, the Authority should develop "stakeholder" support for an environmental process that could be completed by a date certain.

- During the final environmental process, the Authority should develop performance specifications for vehicles and systems and preliminary engineering of the civil components to a level sufficient to obtain fixed prices from design/build construction teams and vehicles/systems suppliers.

- Prior to the issuance of Requests for Proposals, the Authority should seek input from the construction, finance and insurance communities as to size and packaging of contracts and risk allocation provisions of the contract documentation.

- Upon completion of the environmental and preliminary engineering phase, the Authority would issue RFPs to pre-qualified teams to contract for one or more of the following "core" elements of the system:

    ⇒ supply of vehicles, signals and communication systems;
    ⇒ long-term operation and maintenance;
    ⇒ oversight and integration of the civil works.

- The core contract should incentivize the vehicle and system supplier to minimize operating costs and achieve high operating efficiencies.

- Contracting for the civil works could be divided into a number of smaller ($1-2 billion) design-build packages that are sized consistent with the availability of adequate insurance, performance bonds or other guarantees.

Executive Summary

Shared Use Strategy For Right Of Way Acquisition

Robert C. Pearman
Robinson & Pearman, LLP

Shared use of existing transit corridors (rail and highway) is a key component of the right-of-way acquisition needs for the proposed high speed rail project ("Project") of the High Speed Rail Authority ("HSRA"). Existing corridors are convenient for passengers and embrace large population centers, may have established infrastructure necessary for the Project, and may already satisfy certain land use requirements and entitlements. Moreover, there may be significant cost savings from the use of existing corridors versus independently acquiring hundreds of miles of real property. The fully built out system will cover almost 670 miles, and the desired right of way ("ROW") width is 100' - this would also encompass fiber optic, drainage and other utility easement areas, though 50' may be the maximum available in certain densely occupied corridors. The order of magnitude of the valuation placed on the required ROW is estimated to be $2.4 billion dollars. The funding plan presented to the Authority assumes that 15 percent of the ROW cost would be donated, which translates to approximately $374 million of donated value. There are nearly a dozen owners and operators, public and private, sharing the corridors adopted for further engineering and environmental study by the HSRA.

Some of the key findings are:

a. The prospect of receiving donated ROW may be realistic with respect to public entities, but is less likely with respect to freight railroad-owned ROW.

b. The costs of acquisition may include the HSRA sharing in the cost of service upgrades for existing rail and transit facilities, capacity upgrades and other betterments sought by the ROW owner. Thus, the financial plans should reflect that even in the case of "donated" or below cost conveyance of ROW usage by existing corridor owners, a price would have to paid in terms of capacity upgrades, safety improvements and other enhancements that the current owners/users would require, some of which would be beyond those that would necessarily be required (at least from the HSRA's view) as a result of the Project.

c. To the Project's credit, some ancillary impacts will be of benefit to co-users transit operations, e.g., advanced technology signal systems and related items

may necessarily enhance their safety and operations. These contributions deserve emphasis when bargaining for donated or reduced cost ROW access.

d. Shared use may bring the system in proximity to freight and other traffic that will trigger heightened Federal Railroad Administration safety requirements; such regulatory burdens could lessen operational efficiency and increase costs.

e. The Project needs to be planned in such a way that its construction and operations do not unreasonably and adversely impact the existing corridor users.

f. The HSRA should continue with certain factual investigation of potential rail corridors to determine the practical availability of shared use.

g. The HSRA should consider meetings with owners and operators of existing transit corridors, i) to attempt to achieve a buy-in on the HSRA's plans, ii) to began laying the groundwork of preserving existing ROW widths and available capacity.

Executive Summary

California High-Speed Rail
Local Agency Participation Strategy

Jacki Bacharach and Associates

BACKGROUND

This report was commissioned to answer the following question: What strategy should the Authority take to obtain local agency participation in station development, revenue sharing and financial participation?

The CHSRA needs the participation of local governmental agencies for several reasons including right of way donations, and station oriented development (SOD).

The information obtained illustrates that joint development adjacent to rail transit systems has been particularly difficult to achieve nationally. In any large scale development activity such as this, the level of complexity of the project and the number of entities to be dealt with require concentrated attention to inter-jurisdictional cooperation. Because the CHSRA is a new entity with no pre-existing relationship with any of the cities or counties involved, the opportunity is present to set the tone for a new and mutually beneficial relationship.

CONCLUSIONS AND RECOMMENDATIONS

The simplest lesson learned from this survey is that local jurisdictions cooperate and financially participate with rail authorities when a project can be expressed in terms of something that the cities want to do anyway. Examples include: redevelop the downtown, expand the airport, or reduce highway congestion. Second, the local jurisdiction's interest in participating can be influenced by incentives -- technical, informational, or financial.

The Authority should be prepared to pay for the stations and adjacent parking lots, with the idea that some of the parking lots can be used as the authority's contribution to joint development projects as they develop. The Authority should count on cities to participate by using their powers such as adopting specific plans and zoning amendments. This partnering from the cities will be more readily available to the Authority than a financial contribution. Other partners with additional financial potential and self interest should also be included. These include the local bus operator, regional bus operator, airport, Amtrak, Caltrans, council of governments, congestion

management agency, metropolitan planning agency and the regional transportation commission.

Land Development Strategy

To adopt a land development strategy, the Authority would:

- Articulate a set of land development principles for each of the situations that high speed rail might face.

- Participate in the policy forums that have influence on regional land use policy in each segment of the corridor.

- Provide ongoing education for the public, private sector and politicians that emphasizes the benefits of combining high speed rail with certain land developments.

- Take project specific actions to ensure that high speed rail-supportive land uses are considered in specific projects such as positioning the Authority to conduct development proposal reviews, provide model zoning codes and so forth. The Authority should complete as much of the work of the development process as possible in order to reduce the burdens on public and private partners while documenting the benefits of becoming a high speed rail partner.

To best facilitate communications and action, the Authority should evaluate conducting a series of segment summits that can more closely address the concerns of the corridor cities. A city-champion should be sought and might more readily emerge in each segment on the basis that their development plans would drive economic benefits for the entire region. The Authority might also consider forming an advisory commission consisting of the cities in each corridor segment.

Finally, the Authority and consultants alike should remember that the first task is for the Authority to build a business relationship with cities and other local participants which is perceived as win-win for all parties involved. The legal process involving formal agreements will build on the business relationship. Further, the relationships will take time to mature, so it is to be expected that many of the joint development benefits will not be realized until the HSR is operational, established and has an identity in the community as an asset and a resource.

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

A Proposed Strategy for Procurement of the California High-Speed Rail System

Nossaman, Guthner, Knox & Elliott, LLP

Goals:

- Delivery of a high speed rail system of the highest quality and safety at the lowest cost to the taxpayer and traveling public.
- Completion as soon as practicable taking into account the Authority's quality and pricing goals.
- Avoiding establishment of a large governmental organization while providing adequate oversight and controls over private sector participants and maintaining full accountability for public funds.

Factors Underlying Development of Procurement Strategy:

- The HSR system will be one of the world's largest and most costly transportation infrastructure projects. The Authority's Corridor Evaluation Team currently estimates the cost of the entire system, including the Sacramento and San Diego corridors, at approximately $25 billion.
- Construction of the entire system is estimated by the Corridor Evaluation Team to be completed 16 years after commencement of the environmental process.
- Net system revenues (after payment of operating expenses) are not expected to be sufficient to provide a source of financing for construction costs. The draft financial plan prepared by Public Financial Management is based a ¼-cent increase in general sales taxes.
- Operating revenues of the system are estimated to cover annual operating expenses (estimated by the Corridor Evaluation Team at $528 million).
- Limited sources of funding require that suppliers and

construction contractors commit to fixed prices and provide completion date guarantees.

- The alignment and environmental mitigation elements cannot be finalized until completion of the environmental and permitting process. This process will be lengthy and complex and is estimated to take several years.

- The vehicles and systems involve the deployment of advanced and proprietary technology, for which there are only 2-3 suppliers—the French and German builders of the TGV and ICE systems (currently cooperating in a single consortium in Asia) and the Japanese Bullet Train.

- Only a limited number of firms have the capability to assume responsibility for contracts in the $1 billion range.

- The desire to avoid creation of a large governmental organization will necessitate heavy reliance on private sector firms for project management and delivery.

- Public policy in favor of optimizing user benefits dictates that the Authority maintain control over farebox and other issues affecting ridership.

- Farebox and ridership are key components in the finance process.

- Stations must meet not only system operating needs but also local real estate and economic development interests, as well as providing intermodal connections to local transit, commuter rail and bus systems. Small package freight capability should also be incorporated into station design.

- The procurement plan must be acceptable to the voters who will be asked to approve increased taxes to finance construction.

Major capital cost elements

The major capital cost elements for the system include:

System Element	Cost ($ millions)
Stations	$1,014
Trackwork	$1,192
Earthwork and Related Items	$1,540
Structures, Tunnels, and Walls	$4,022
Grade Separation	$2,637
Right of Way	$1,885
Environmental Impact Mitigation	$425
Rail and Utility Relocation	$374
Signals and Communications	$1,425
Electrification	$1,095
Program Implementation	$3,981
Design Contingency	$3,902
Vehicles	$1,178
Support Facilities	$304
Total =	**$24,974**

Source: Parsons Brinckerhoff Quade & Douglas, Inc. September 1999 Review of Parameters and Assumptions.

Threshold policy decisions

1. Should the Authority procure the HSR system through a single concession agreement or should the Authority manage the procurement itself by directly contracting for design, construction services and long term operation and management, or some combination of the two.

2. How much design work should be performed prior to procuring major private sector partners and should any such contract or contracts be procured before or after completion of the environmental process.

3. What should be the form of the contract(s) and procurement methodology?

Alternative A: **Procurement of the entire HSR system through solicitation and award of a Florida-type concession for the entire project.**

Roles of Public and Private Sector in a Concession Agreement

The roles of the government and the private sector in a concession or franchise arrangement can vary, but generally include the following elements:

1. Government sponsor grants private consortium a franchise to build, own (or lease) and operate the project for a fixed term. The franchisee has complete responsibility to design and build the system and assumes the risk of the cost of the system, including operations and maintenance.

2. Government sets standards for design and fixes the scheduling parameters, is primarily responsible for negotiating the environmental process and coordinating with local public jurisdictions.

3. Franchisee has primary responsibility for financing of the project, which generally involves the issuance of debt secured by operating revenues as well as an equity component. The franchisee is delegated fare setting authority and has right to receive all or a portion of net revenues, subject to limits on return on investment. The franchisee may earn a return on equity from system revenues after payment of operating expenses and debt

service. Government sponsor may support the financing with a limited contribution toward permitting costs, site acquisition or debt service.

4. Rights of franchisee are generally contingent on its meeting deadlines relating to close of financing, commencement of construction and achieving commercial operation.

5. Franchisee may have primarily responsibility or may share responsibility with government for obtaining right-of-way, environmental clearances, community acceptance and necessary government approvals and permits.

6. Franchisee will have primary procurement responsibility and will execute all construction and supply contracts, subject to any parameters set by the government sponsor. If a government financial contribution is made, the government will negotiate a final capital cost (or overall design/build/operate contract) with the franchisee.

Suitability Factors

1. Projected revenues must cover operating costs and debt service on project revenue bonds, while providing a return to equity investors.

2. Strong and reliable ridership and low risk of cost overruns are key components of any revenue financing.

3. If permitting and development involve significant risk, franchisee may require government sponsor to share pre-financing costs and reimburse the franchisee's own expenditures if the project cannot proceed.

Precedents

Florida High Speed Rail.

FOX franchise was awarded prior to completion of environmental review, final ridership and revenue studies and preliminary engineering required for final costing. If upon completion of most of these activities, project was determined to be infeasible, FOX would be reimbursed for a substantial portion of its development costs. A DBOM contract was to be negotiated by FDOT with FOX upon completion of preliminary engineering.

The project's total capital cost was estimated to be $6.3 billion. The State of Florida was to contribute $70 million per year, escalated for 40 years, which would have financed approximately 1/3 of the project's capital costs; the remaining 2/3 of capital costs will be provided from proceeds of bonds payable from net revenues of the system. Members of the FOX consortium were to make an aggregate $349 million equity contribution.

Taiwan

Concession awarded by Taiwan Ministry of Transportation and Communications for design, construction and 30-year operation of 220-mile high speed rail line to Taiwan High Speed Rail Corporation with a total capital costs of approximately US$17 billion. Rail Corporation also has development rights around stations for 50 years. Government contribution is limited to delivery of right of way, full detail design of the alignment and development of two stations. Remaining costs of project are to be financed based on system revenues and property development rights. Consortium members will contribute through construction over US$3 billion in equity.

Las Vegas Monorail

Clark County, Nevada has granted a franchise to a private limited liability company owned by resort owners to develop a monorail system to serve the Las Vegas "Strip." The franchise is to be transferred to a nonprofit corporation which will finance the project entirely from project revenues and subordinated debt supplied by property owners to be serviced by monorail stations.

Virginia 895 Connector

The construction of the 895 Connector was contracted under a "hybrid" franchise/design-build contracting scheme. The project proposal and certain preliminary development work was undertaken by a private consortium, which upon financing, assigned its rights to a non-profit corporation. The private consortium entered into a separate design-build contract with the Virginia Department of Transportation for construction of the tollroad. Operations and maintenance of the tollroad are the responsibility of VDOT. Project costs are being financed with toll revenue bonds and a limited state financial contribution. Payment

of operating expenses to VDOT are subordinate to payment of debt service.

(For a more detailed review of the foregoing projects, see Nossaman, Guthner, Knox & Elliott, LLP December 1998 *Update of Project Delivery Analysis ("Nossaman Update")).*

Advantages of Concession Arrangement

A concession arrangement would have the following advantages for the procurement of the HSR system:

1. Single contracting party means a single point of responsibility for construction and operation of the HSR system.

2. Long-term financial incentives maximize private sector initiative and risk taking.

3. Franchisee would have strong incentives to manage pre-development activities so as to enable the project to be financed.

4. Franchisee would manage procurement of vehicles and civil work, minimizing need for the Authority to develop a large staff or hire a construction management team to oversee and manage contracting. However, the Authority would still need to retain some oversight responsibility.

5. Franchisee may contribute some private equity capital. The amount and rate of return would need to be negotiated in light of project risks, as well as the timing of the contribution and priority of payment.

Disadvantages of Concession Arrangement

The particular characteristics of the HSR system in California, particularly the size of the project and proportion of government funding may make an award of a single concession for the entire project unsuitable.

1. Since public funds would provide most, if not all, of project costs, private sector risk-taking will be minimal. Franchisee would lack usual incentives to insure lowest possible construction and operating costs.

2. Competition for the concession will be limited because the field of high speed rail suppliers is very small (2 or 3).

3. Given the duration and uncertainty of the environmental process, franchisee is unlikely to assume much of the development risk, particularly if it is also to assume 100% of the ridership risk.

4. If concession is awarded prior to completion of environmental reviews, completion and preliminary engineering and final ridership and revenue studies, final pricing would require a non-competitive negotiation between Authority and Franchisee.

5. Given the size of the project, it is not likely that the consortium's overall price and completion guarantees could be fully secured. It would not be possible to obtain a single performance bond for the entire project. (The maximum bond amount for any single contract may be in the $300 - 400 million range.) Authority would probably have to rely on performance bonds from subcontractors.

   The franchisee would probably not be able to guarantee land acquisition costs.

6. The authority would retain responsibility for cost and delivery of right-of-way. Roles of Franchisee and Authority, in negotiating for local community station contribution would need to be determined.

7. If there is no farebox revenue financing, Authority may want to retain greater control over fare setting policy, particularly if farebox revenues are to be used to secure financing for extensions.

8. The role of the franchisee in development and operations of extensions would need to be determined.

9. The consortium and its subcontractors may be unwilling to assume certain risks including force majeure items, subsurface conditions and certain utility relocations.

10. The cost of money for the franchisee's equity contribution, albeit fully subordinated, will be higher than the cost of tax-exempt financing.

Timing of <u>Prior to completion of environmental process</u>.

solicitation and award	The Authority could issue an RFP for a Concession to build and operate the “initial” system following voter approval of new taxes to fund the system, based on cost estimates and financing plan completed as part of the Authority’s Business Plan adopted prior to the public vote. The franchisee would be responsible for completing the environmental process, conducting final revenue and ridership studies and completing the engineering to a level and scope sufficient to support a fixed price negotiation of a design/build/operate contact. Final costing would occur after the end of the environmental process and final alignment determinations. Although the negotiation would be on a “sole source” basis the Authority could require that the franchisee secure major subcontracts through competitive processes subject to Authority approval. Pricing could be based on “unit” prices submitted in the RFP for vehicles and certain other components. <u>After completion of environmental process</u>. The Authority would undertake all environmental and preliminary engineering activities itself and assume all related costs and risks. The Authority could issue an RFP after final route determination and sufficient preliminary engineering to obtain fixed price and schedule guarantees from all proposers.

Alternative B: Direct Authority Management of Procurement through Contracting for Construction of HSR System, Vehicle Supply and Maintenance and Operations with Separate Contractors

Roles of Private and Public Sector

With direct contracting, the government would retain greater responsibility and bear greater risk than with a concession arrangement.

1. Authority would determine the form, size, and packaging of all contracts for various system elements including vehicles and systems; civil components and operations and maintenance.

2. Authority would have the option of contracting on a design-build, design-build-operate or design-bid-build basis for each set of contracts.

3. For design-build contracts, the Authority would provide performance specifications for the vehicles and systems design and an appropriate level of preliminary engineering for the civil elements. The Authority would issue an RFP (or series of RFPs) for final design and construction of each project component.

4. Operations and maintenance may be included in contractor's scope or let separately. The need for and method of obtaining long-term performance guarantees will influence this decision.

5. The Authority could award contracts on a "best value" basis (the approach required for procurement of design-build contracts by federal agencies), taking into account the price and factors such as (a) the contractor's track record, technical expertise, contract management skills, and financial strength; (b) suitability and cost-effectiveness of proposed design; (c) completion date and operating cost guarantees and warranties, and (d) risks assumed by contractor.

6. Contractor would be paid with government funds; Authority would retain control over and ownership and use of project revenues.

Suitability Criteria

1. Public funds provide most of financing for the project.

2. Development period risks are high, but government is willing to assume responsibility for permitting and other pre-development costs notwithstanding risk of project failure.

3. Government agency has sufficient expertise and staffing required to manage the procurement and contract administration processes (note that this criteria may be met in part by contracts with engineers and other consultants).

4. Government agency has managerial and financial capability to manage multiple contracts.

5. Government agency has authority to use "best value" process to award design-build contracts, and can contract for operations with a third-party operator.

Precedents

Tren Urbano

Puerto Rico is constructing the $1.2 billion, 12-mile transit system under a series of design-build contracts, including a single $500 million contract for vehicles, traction power, train control and communications , as well as 2 stations and a 1.6 mile test track. The systems contractor is also responsible for design coordination for the civil contracts for the remainder of the stations and line segments. Vehicle supplier also has a 5-year O&M contract. Separate series of six design-build contracts were awarded for stations and remainder of right-of-way, primarily based on geography, type of design and structure.

New Jersey Transit DBOM Projects

NJT has one design-build-operate maintain project under construction and another in a pre-construction phase. NJT is responsible for providing the site and some permits to the contractor; the contractor is responsible for all other governmental approvals, railroad and utility approvals, utility relocation and environmental mitigation. Guaranteed completion date may be extended for specified force majeure events and other circumstances. Ownership and full control and responsibility for fare setting and scheduling remains with the Agency.

Orange County Corridor Agencies

The San Joaquin, Eastern and Foothill toll roads were developed via design-build contracts deemed necessary to permit project financing based on projected toll revenues. The toll collection and revenue management system was also developed through a design-build contract with Lockheed Martin IMS, and is being operated and maintained by the same entity. The design-build contract for the Foothill-South toll road was let prior to final environmental permitting based on "unit prices."

Alameda Corridor

The Alameda Corridor program includes 14 construction contracts, including a design-build contract for a major portion of the project, including the 10-mile long Mid-Corridor (trench) section plus track, equipment and systems for the entire corridor. The design-build contract incorporates fixed pricing and schedule guarantees as required to support system revenue financing. The remaining contracts are being let on a conventional design-bid-build basis.

Utah I-15 Corridor Reconstruction

The I-15 contract provides for design-build construction and 10-year maintenance of 26 km of interstate highway. The design-build method was selected due to desire to assure project completion prior to 2002 Winter Olympics. The facility will not be tolled, and is financed with bonds secured by gas tax revenues.

(For a more detailed disussion of the foregoing projects, see Nossaman *Update.*)

Advantages of Direct Contracting

1. Award of all contracts would be competitive and under direct control of Authority.

2. Authority would retain full farebox policy decision-making powers.

3. Authority would provide public accountability for use of public funds.

Disadvantages of Direct Contracting and Other Considerations

1. There would not be a “single point of responsibility” for design, construction and operation of all system elements, although this problem can be mitigated through the contracting structure, as discussed below.

2. The Authority would be responsible for managing system interfaces (i.e. between civil works and systems and between segments of the civil works), although responsibility for these issues can also be assumed by one of the contracting parties.

3. The Authority may have to engage larger engineering staff although it can also rely on consultants for procurement and contract management.

4. The Authority would retain full development risk.

5. The Authority would be responsible for ensuring that the operator provided appropriate input into design of the system unless operations is part of the systems contract, as discussed below..

Recommended Strategy:

After completion of environmental process, solicit and award a single “core” contract for Vehicles, Systems and long-term Operations and Maintenance; Systems Integration could be part of the “core” contract or let separately; award separate Design-Build Contracts for Civil Elements.

No contracts should be awarded until completion of the environmental process, which the Authority should manage with assistance from engineering and other consultants.

During the environmental process, the Authority should develop performance specifications for the vehicles and systems and bring the preliminary engineering for the civil components of the system to a level sufficient to obtain fixed prices.

Before completion of the environmental process, the Authority could issue RFQs for (1) suppliers of vehicles and systems, including long-term operations and maintenance and (2) civil contractors for the civil works. During the RFQ process the Authority could obtain additional industry input on contracting issues, including size and packaging of contracts and draft contract

documentation.

1. The "Core" Contract.

Upon completion of the environmental process, the Authority would issue an RFP to pre-qualified teams to contract for the following "core" elements of the initial segment of the HSR system:

(1) supply of vehicles, signals and communications systems, and possibly power, catenary and trackage; and

(2) long-term operation and maintenance (vehicles systems, and possibly also civil components).

The "core contractor" would provide long-term operations and maintenance pursuant to a contract allowing appropriate incentives (and operating latitude) to maximize net revenues available to support the financing of extensions or reduction in taxes used to finance construction of the HSR system.

The "Core" contract could also include:

(3) oversight and integration responsibility for the civil works.

Through its oversight and integration role, the "core contractor" would be responsible for interfaces between the system and civil works and among individual civil components.

The core contract would be awarded on a "best value" basis following competitive negotiations and delivery of best and final offers. "Life cycle costing" should be used in evaluating the proposals.

2. Civil Design-Build Packages.

The Authority would also enter into multiple design-build contracts for the civil works in $1-to-2 billion packages, divided primarily along geographic lines, but possibly including separate packages for special features, such as tunnels, elevated structures and/or stations.

The size of the civil design-build contracts would be determined by the amount of risk the contractors would be willing to assume under a single contract and the amount of the contract that could be bonded, while maintaining necessary competition for any one contract.

To achieve consistency and best pricing, the Authority could separately procure the supply of common elements such as trackage, and substations.

3. Stations.

The Authority (together with affected local communities that participate financially in the funding) would negotiate separate design-build contracts for individual stations or groups of stations.

4. Right-of-way and Utility Relocation.

Authority would retain responsibility for acquiring and delivering the right-of-way. The Authority could undertake to relocate utility facilities prior to award of the design-build contracts, but in all likelihood the design-build contractor will be required to undertake responsibility for many of the required relocations.

Advantages

- By waiting until the alignment and environmental features are finalized and preliminary engineering has been brought to a sufficient level to support fixed price bids, the Authority can receive the benefit of a full price competition, which should result in a substantially lower cost.

- The Authority will gain single-point-of-responsibility with respect to vehicles, systems and long-term operation and maintenance and minimize responsibility for managing the interfaces by including that task in the core contractor's scope.

- Dividing the civil design-build contracts into $1-2 billion dollar packages will maximize competition (and availability of adequate payment and performance bonds) while minimizing interfaces.

- The competitive contracting process provides assurance that public funds are not being misused.

- The core contracting process should incentivize the vehicle and system supplier to minimize capital and operating costs and to achieve high operating efficiencies.

- Combining the vehicle and system supply contract with systems

integration and long-term operations and maintenance will insure that the system is designed to enhance ultimate operations.

- Use of core contract and civil design-build contracting will minimize the need for the Authority to create a large agency infrastructure. While the Authority will retain significant oversight responsibilities, it can rely on contract management firms and other appropriate consultants.

- Delaying the contracting solicitation and award to the end of the environmental process will permit additional time for the development of other technologies (such as Maglev) which might advance to the point that they might be considered suitable candidates.

- Delaying the contracting solicitation and award to the end of the environmental process will delay the schedule for award of contracts, but the cost of this delay should be more than offset by lower overall cost for the system resulting from greater certainty and the benefit of fully competitive solicitations.

CALIFORNIA HIGH SPEED RAIL AUTHORITY

REPORT ON SHARED USE STRATEGY FOR RIGHT OF WAY ACQUISITION

by

Robert C. Pearman
Robinson & Pearman LLP

PART ONE

Objectives and Scope of Report

Shared use of existing transit corridors (rail and highway) is a key component of the right-of-way acquisition needs for the proposed high speed rail project ("Project") of the High Speed Rail Authority ("HSRA"). Existing corridors are convenient for passengers and embrace large population centers, may have established infrastructure necessary for the Project, and may already satisfy certain land use requirements and entitlements. Moreover, there may be significant cost savings from the use of existing corridors versus independently acquiring the hundreds of miles of real property that the Project will entail. The order of magnitude of the valuation placed on the required right-of-way is estimated at $2.4 billion dollars.

This report is based upon, among other things, review and analysis of relevant federal and state laws and regulations; reports and studies on shared use, right-of-way and of high speed rail ("HSR"). We also engaged in telephone consultation with transit owners and users, such as Amtrak, the FOX project, Caltrans, commuter rail operators, freight railroads, government regulatory agencies and others.

This report first discusses some of the characteristics of the proposed system that impact on shared use. The heart of this report then compartmentalizes and analyzes the key issues within 6 broad categories:

1. Shared Use ROW Acquisition Costs
2. Additional Benefits (Selling Points) of shared use to the owner/co-user
3. Burdens to the owner/co-user
4. Legal Environment
5. Design/Engineering/Operational Challenges
6. Miscellaneous

Conclusions and recommendations are then set forth.

PART TWO

Key High Speed Rail System Characteristics Relevant to Shared Use

System Characteristics:

The Project (or "system") will constitute one of the most extensive public works transportation projects ever. The fully built out system will cover 670 miles, and depending on the technology and extensions could cost approximately 25 billion, with preliminary engineering and construction phased over sixteen years.[1]

The desired right of way width is 100 feet. This would also encompass fiber optic, drainage and other utility easement areas, though 50 feet is anticipated to be the maximum available in certain densely occupied corridors. The funding plan contemplates that a portion of the required right of way will be donated by the owners of that real estate. Such ownership currently lies in public entities commuter rail authorities, Caltrans, and in privately held freight railroads.

The Corridor Evaluation Study indicates that right-of-way acquisition cost would be approximately 10 percent of the estimated 24.9 billion dollar capital cost/ of conventional Very High Speed Rail.[2] Of this amount, the funding plan presented to the Authority assumed that approximately 15 percent of the right-of-way cost would be donated,[3] which under these assumptions would be approximately $374 million dollars of donated value.

1 // Review of Parameters and Assumptions, September 1999, California High Speed Rail Corridor Evaluation, Parsons Brinckerhoff ("Corridor Evaluation Study").
2 // Id.
3 // Financial Plan, to the California High Speed Rail Authority, November 1999, by Public Financial Management, Inc.

Transit Corridor Owners and Operators:[4]

Southern California Regional Rail Authority (Metrolink), as to routes from Santa Clarita to Burbank to L. A. Union Station, and from Riverside to Los Angeles.

Peninsula Joint Powers Board, which operates Caltrains service, on right-of-way that it owns and which Union Pacific owns. This could include trackage between Redwood City on the San Francisco Peninsula, and San Francisco and San Jose's Diridon Station.

Union Pacific Railroad.

Burlington Northern Santa Fe Railroad.

Southern California Intercity Rail Group, which has some oversight of San Diegan service operated by Amtrak.

Caltrans rail division is responsible for operation and management of the San Joaquin (Oakland-Central Valley-Bakersfield) and San Diegan corridors operated by Amtrak.

Caltrans is responsible for activities within state highways, and interstates.

Amtrak operates the Intercity corridors for the Capitol, San Diego and San Joaquin corridors, and itself operates long distance trains in California connecting with other states.

Others that may have some involvement include:

Altamont Commuter Express, a joint powers board operating service between San Jose and Stockton, and managed by the San Joaquin County Rail Authority.

Capitol Corridor Joint Powers Board, which thru the use of San Francisco Bay Area Rapid Transit District as managing agency, oversees the Capitol Corridor Intercity service (San Jose-Oakland-Sacramento-Roseville-Auburn) operations of Amtrak.

Specific Routes of Shared Corridor Usage, and possible affected entities:[5]

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4 // California High Speed Rail Authority Institutional Arrangements, June 9, 1999, Letter Report to Mr. Kip Field, by SYSTRA Consulting, Inc.

5 // Staff Recommendations for VHS Route Adoption, June 16, 1999, California High Speed Rail Authority; Revised Staff Recommendations for VHS Route Adoption, July 14, 1999, California High Speed Rail Authority.

The following reflects the corridors adopted for further engineering and environmental study.

San Diego to Los Angeles coastal route - Orange County Transportation Authority, SANDAG, SCIRG, BNSF.

San Diego to Los Angeles inland route:

-San Diego to Riverside/ Interstate 15/215 - Caltrans, Riverside County Transportation Commission,

-Los Angeles to Riverside - UP, Metrolink.

Los Angeles to Burbank area - UP, Metrolink.

Tehachapi Crossing:

-Interstate 5/Grapevine - Caltrans,

-Palmdale-Mojave/SR-14 - UP, BNSF, Caltrans.

Central Valley/SR 99 - BNSF, UP.

Merced/Stockton/Sacramento Corridor/SR 99 - UP, Caltrans.
San Jose/San Francisco - Caltrain (PCJPB), UP.

San Jose/Oakland - UP.

PART THREE

Discussion of Key Issues

I. Shared Use ROW Acquisition Costs

A. Pure Real Estate/ROW acquisition price

1. Undoubtedly, private freight line owners will likely charge for any significant shared use. While freight railroads recently have been more open to sharing corridor and rights-of-way with other transit operators, this has been most achievable when there was excess capacity, and even then the majority of necessary capital improvements were paid for by the sharing entity, e.g., the public transit entity. [6] A novel approach to consider would be, as to new ROW acquired by the Authority in one part of the State, to allow a freight rail company to share that corridor, in return for the HSRA obtaining access to the railroad's ROW elsewhere in the State.

2. Public entity owners, e.g., commuter lines, Caltrans may not charge for shared use; but see I.B. Public entity owners will most likely lease or grant/sell a right to occupy, not as likely to convey property outright(except where it is clearly excess, unneeded property or perhaps where necessary operational rights and easements can be retained).

B. "In-Kind" acquisition costs, betterments, etc.

Owners of existing transit corridors may seek a host of improvements and betterments in connection with allowing any shared use. In addition to insisting that some of the promised benefits of the Authority's project are effectuated (see II. below), demands for upgrades may include:

1. Service upgrades - provide overhead catenary system facilities for the benefit of the existing rail owner,

2. Safety upgrades -beyond those that simply track Federal Railroad Administration (FRA) requirements; also cathodic protection for utility facilities due to electrification,

[6] Progressive Railroading, July 1999, "A Shared Vision" pages 31-36.

3. Capacity upgrades - preserve ability to later double or triple track, sidings to new spur track growth areas, for example, HSRA may be asked to make all accommodations in future for owners needs, such as agreeing to relocate the system or later acquire extra ROW if needed for, say, Caltrans expansion,

4. Other safety and service upgrade "wish list" items.

II. Additional Benefits (Selling Points) of Shared Use to the Owner/Co-User

It can be argued that many of the ancillary impacts of the project will be of benefit to others transit operations.

A. Advanced technology signal systems and related items may necessarily enhance the safety and operations of the co-user; improved strength of joint use bridges, upgraded track bed-rail, ties and ballast, advanced automatic train control (ATC), interlocking equipment.

B. Locality/freight owner can tie into funding sources available to/thru HSRA and not available to the co-owner, e.g., federal grade crossing monies[7].

C. Strengthened corridor intrusion system will bring safety advantage to co-user as well.

D. Other rail operators can join in operational efficiencies from lessened curves and altered gradations for higher speeds, and from elimination of at-grade crossings in some cases.

E. Sharing of information on travelers and customers, joint marketing activities between passenger transit systems and Authority, increase ridership via mutual feeding of potential passengers and customers.

F. Increased utilization and return on existing right-of-way and other assets, potential sharing of maintenance of ROW expenses.

Local governments and public owners of transit corridors may additionally be benefitted by:

A. Preservation of tax revenue for localities if public HSRA can utilize existing public land not currently on tax rolls, versus acquiring privately held land and removing it from the tax rolls.

[7] Title 23 US Code § 104.

B. The Project may aid in providing overall societal, economic development benefits, e.g., meeting regional clear air attainment goals.

III. Burdens to the Owner/Co-User

Nevertheless, some impacts of the Project may reverberate negatively with existing owners/users.

A. The Project will potentially restrict growth and expansion opportunities. Growth would need to be taken into account in any agreement with existing owners, and restrictions may prove unacceptable to private freight owners.

B. Limited parcel freight operations, and commuter operations by HSRA may create a perceived or factual degree of competition with existing service providers. However, the Authority might posture such operations as supportive and complementary by, among other things, contractually assigning provision of services it initiates to the current operator, e.g., Metrolink, Caltrain, or coordinating freight railroad access to the System in areas of the State where existing freight corridors are less efficient.

C. Other burdens include costs of negotiations, construction impacts, operations impacts, perceived institutional complexity of dealing with the Authority - a new and governmental entity, and simple traditional reluctance to sharing of right-of-way.

IV. Legal Environment

The Federal Railroad Administration will play a key role in shaping the legal environment relative to shared use. Other significant entities involved may include the Federal Transit Administration, California Public Utilities Commission, and Caltrans.

A. FRA: HSR would be subject to traditional railroad safety standards; FOX had sought particular rules applicable to it - see proposed 49 CFR Part 243, 62 FR 65477 (12/12/1997). Because of the cessation of FOX activities, that particular rule-making effort is dormant.

B. The recently promulgated Passenger Equipment Safety Standards by FRA[8] are notable. At present, the standards do not affect speeds over 150 mph, though an ongoing working group conceivably could give

[8] 49 CFR Part 216, et al, 64 FR 25539 (May 12, 1999).

consideration to such speeds. The FRA is very concerned about the safety issues related to very high speed rail and it seems likely a very detailed examination of any proposed system will be required along with particularized safety rules, a la the FOX effort. The presence of freight traffic may add to the heightened FRA scrutiny and requirements.

C. California Streets & Highways Code §§ 670 - 692 [re permits for use in highways], and §§ 104.12, 146, 150 [uses and leasing of freeways and highways]; CPUC authority re grade separations.

D. Legal issues include environmental protection statutes, right-of-way and land use regulations, and development statutes.

V. Design/Engineering/Operational Challenges

The Project needs to be planned in such a way that its construction and operations do not unreasonably and adversely impact the existing corridor users.

A. HSRA may have to demonstrate "positive separation" in any cases where there may be a crossing with other rail or auto/pedestrian, e.g., sophisticated signal and switching systems, video cameras at crossings, warning alerts in sufficient time for vehicles to stop or avoid collision, ATC, PTC, slower than optimum speeds around crossing areas.

B. The Project may need to lessen curvatures and alter gradations to permit the higher speeds desired.

C. Compared to conventional systems, HSR may require increased track separation requirements to lessen possibilities of and impacts from accidents with adjacent users' vehicles. Need to create sufficient and agreed upon vertical or horizontal separation, with barriers, and intrusion protection.

D. Common dispatching and signaling arrangements will have to be negotiated.

E. Other adverse operational, safety impacts - e.g., extra weights on joint use bridges, need for cathodic protection due to electrical OCS, wind effects from high speed in shared tunnels.

VI. Miscellaneous

A. Uses as light or commuter rail may "up the ante" if perceived as competitive versus complementary.

B. Benefit of shared use to HSRA, may include savings on relocation costs if it can utilize existing agreements and rights of co-user to force utility relocations.

C. Shared use may not always be most cost-effective, e.g., due to high acquisition costs, high grade separation costs if existing route has numerous crossings, inappropriate curvatures and grades.

D. Coordination Agreements will be needed - in part as a result of the shared use, as well as reflecting the need to integrate HSR with other transit services; coordination and cooperation agreements may arise to govern, among other things, marketing, schedule coordination, ticketing and fare coordination, signage, design criteria for transit stations, etc.

PART FOUR

Conclusions/Recommendations

a. The prospect of receiving *donated* right of way may be realistic with respect to a public entity, but is less likely with respect to freight railroad-owned right-of- way.

b. The costs of acquisition may include the Authority sharing in the cost of service upgrades for existing rail and transit facilities, capacity upgrades and other betterments that may be requested by the right-of-way owner. Thus, the financial plans should reflect that even the case of “donated” or below cost conveyance of right-of-way usage by existing corridor owners, a price would have to paid in terms of capacity upgrades, safety improvements and other enhancements that the current owners/users would require, some of which would be beyond those that would necessarily be required (at least from the Authority’s view) as a result of the Project.

c. The decision to undertake shared use, even though within fully grade-separated, exclusive guideway operation, may bring the system in proximity to freight and other traffic that will trigger heightened Federal Railroad Administration safety requirements. Such regulatory burdens could lessen operational efficiency and increase costs due to FRA concerns about potential safety hazards when high speed rail operates in or near other vehicular traffic, particularly U.S. style heavier freight trainsets.

d. The Authority should continue with certain factual investigation of potential rail corridors to determine the *practical availability* of shared use. Some of this investigation has already taken place. Factors to be explored

include: whether in the proposed corridors, existing transit right-of-way has the necessary dimensions to support not only the new rail, but desired utility and fiber optic easements, and necessary vertical clearances; whether relocation within a corridor of existing trackage is necessary to accommodate shared use; whether the existing users have plans for expansion, double tracking, etc., that would eliminate the availability of "excess" right-of-way width in the future; whether existing ROW owners already have fiber optic conduits in place with available excess capacity to accommodate the Authority's needs.

e. The Authority should consider meetings with owners and operators of existing transit corridors, i) to attempt to achieve a buy-in on the Authority's plans, ii) to began laying the groundwork of preserving existing right-of-way widths and available capacity. Given the distant nature of the system's planned construction, currently available right-of-way could in the interim be put to incompatible use by existing owners/operators for their own expansion needs, and/or such owners could permit joint development and real estate construction which might impact the Authority's planned usage.

Consideration could be given, for example, to identification by the Authority of preliminary zones of desired usage. Current right-of-way owners could agree a) at a minimum, to keep the Authority informed so that it can adjust its plans accordingly if certain anticipated rights-of-way become unavailable over time, and b) in the boldest and most optimistic scenario, to allow the Authority review of development and expansion plans within this zone with a goal of seeing if the plans can be shaped to be consistent with the Authority planned system.

Report on Local Agency Participation Strategy - California High Speed Rail

prepared by Jacki Bacharach and Associates
with research assistance by Siembab Planning Associates
January 1999

BACKGROUND

This paper presents a survey of the types of relationships transit agencies throughout the United States have with local government agencies when dealing with their transit station development. It presents findings and recommendations for developing agreements with local and regional agencies, particularly those which wish to have stations.

The CHSRA needs the participation of local governmental agencies for many reasons:

1. Right of way donations. The plan estimates that 15% of the required rights of way are currently owned by a public agency. The plan assumes that these agencies will donate their rights of way to the Authority. It is also conceivable that privately owned rights of way can become part of a joint development agreement between the local agency and the private developer in a station oriented development.

2. Station oriented development (SOD). Local governments control the land use policies that influence the timing and nature of development adjacent to stations. SOD at these locations is important to the CHSRA in two ways.

    A. Revenues from passengers, freight and concessions will increase in relation to the station oriented development adjacent to or over the stations.

    B. SOD provides opportunities for value capture by the Authority if the Authority can negotiate participation agreements with the local agencies. For example, the local agency could assign ownership of station-adjacent land to the Authority or share some of the tax increment financing, benefit assessment revenues, or other proceeds.

To accomplish a relationship between the CHSRA and cities or counties such that the local jurisdictions contribute to station development, donate rights-of-way, encourage station oriented development, and share the value captured would constitute an *ideal partnership.*

In order to gain insights on how a rail authority can develop *ideal partnerships*, the research team undertook a limited telephone survey supported by print materials.

WORK STEPS

Telephone interviews were conducted with representatives of rail authorities, cities, and metropolitan planning organizations between November, 1998 and mid-January, 1999. For rail authorities, the interview target was the person responsible for land development or station-city relationships. For cities, it was the person responsible for the transit oriented development project.

The data base of the American Public Transit Association (APTA) lists 17 inter-city commuter rail agencies headquartered in 13 cities, 22 light rail transit agencies in 21 cities (7 of them also operate a heavy rail system), and 14 heavy rail transit agencies in 11 cities. Including Amtrak and FOX, there were 48 systems that could have been surveyed. About half were approached and 16 participated.

By way of a disclaimer, it should be noted that the responses by the agency personnel reflect the perceptions and priorities of the individuals interviewed. Information varies for each system depending on what the interviewee felt was relevant to their process. There were not sufficient resources to verify consistency of the information with several departments throughout each agency. Where print materials were available, more detailed and objective information was obtained.

The following organizations responded to our request for a telephone interview.

Rail Systems

In California (7)	Type
Los Angeles County Metropolitan Transportation Authority; LACMTA	Heavy Rail, Light Rail
Metropolitan Transit Development Board San Diego; MTDB	Light Rail
Southern California Regional Rail Authority SCRRA	Commuter Rail
Bay Area Rapid Transit BART	Heavy Rail
San Mateo County Transit District/ Peninsula Corridor Joint Powers Board	Commuter Rail (policy only)
Santa Clara Valley Transportation Authority VTA	Light Rail Commuter Rail
San Joaquin Regional Rail Commission/ Regional Transit Authority	Commuter Rail (within County only)
Outside of California (9)	
Tri-County Metropolitan Transportation District Tri-Met, Portland	Light Rail
New York State Metropolitan Transportation Authority NYCMTA	Heavy Rail Commuter Rail
Amtrak Business Development Commercial Development	Inter City Passenger Commuter Rail High Speed Rail
Florida Department of Transportation Railway Engineering Administration Florida Overland eXpress (FOX)	High Speed Rail

Maryland Mass Transit Association Baltimore, MMTA	Heavy Rail, Light Rail Commuter Rail
Massachusetts Bay Transportation Authority Boston, MBTA	Heavy Rail, Light Rail Commuter Rail
Chicago Regional Transportation Authority Chicago, RTA	Heavy Rail Commuter Rail
Southeast Pennsylvania Transportation Authority Philadelphia, SEPTA	Heavy Rail, Light Rail Commuter Rail
OnTrack Syracuse, New York	Commuter Rail
Cities	Rail Service
City of Warwick, Rhode Island	Amtrak HSR
Chicago Union Station Company (subsidiary of Amtrak)	Amtrak RTA
City of Millbrae, California	BART Caltrain
City of Renssalaer, New York	Amtrak
City of Richmond, Virginia	Amtrak
Other	
The Great American Station Foundation	
Caltrans Rail Program	
Kern County Council of Governments	
City of Bakersfield	

ANALYSIS

In order to analyze the relationships between rail systems and cities, each rail system has been categorized into one of three types in terms of its approach to station development and station oriented development (SOD). The three categories are:

- Opportunistic. – support is provided to cities or other agencies that create development opportunities such as using an abandoned or rundown train station as a key element in the redevelopment of the central business district.

- Tactical – complementary land use and station oriented development are seen as desirable but not central to the mission of the rail authority; duties of some staff members involve systematically providing information support to rail cities.

- Strategic – complementary land use and station oriented land development are seen as essential elements in the long run success of the rail system; dedicated staff are budgeted to actively seek out and shape development opportunities.

A summary of agency approaches determined as a result of the survey is shown below in the following table. The specific features of each system obtained through the interviews are included in the Appendix which follows the 'Conclusions and Recommendations'.

APPROACH TO STATION ORIENTED DEVELOPMENT

In California (7)

Los Angeles County MTA	Tactical
San Diego MTDB	Strategic
Southern California SCRRA	Tactical
Bay Area BART	Strategic
San Mateo County Transit District	Defers to Members
Santa Clara Valley VTA	Strategic
San Joaquin RRC/RTA	Strategic

Outside of California (9)

Portland, Tri-Met	Strategic
New York MTA	Opportunistic
Amtrak	Opportunistic
Florida, FOX	Opportunistic
Maryland MTA	Opportunistic
Massachusetts MBTA	Opportunistic
Chicago METRA	Opportunistic
Philadelphia, SEPTA	Opportunistic
Syracuse, ON TRACK	Opportunistic

Of the 9 systems surveyed outside of California, only Tri-Met in Portland described their orientation to land use and to city relationships as strategic. In California, the systems

had either a tactical or a strategic orientation. It may be that the eastern and midwestern systems are generally older, more fully developed and have inherited existing stations and city relationships. It may also reflect the traditional culture of rail system management with its emphasis on operations.

In order to realize the type of participation by cities that has been envisioned in the initial CHSRA development plan, a strategic approach appears to be necessary. Even with that, there are many factors beyond the control of any rail authority that affect the willingness of local jurisdictions to participate as a partner.

FINDINGS

The information obtained illustrates that joint development adjacent to rail transit systems has been particularly difficult to achieve nationally. The *ideal partnership* that the CHSRA seeks with local jurisdictions was not found in any system surveyed, and probably does not exist in the United States.

A report entitled the "Joint Development Entrepreneurial Study," prepared for Bay Area Rapid Transit by the Sedway Kotin Mouchly Group (with subcontractors) was published in May, 1996. The author's quote a similar report from 1979 completed by the Urban Land Institute Research Division which had concluded that, from a national perspective, "the 'ambitious objectives' for joint development had been infrequently realized." The 1996 report states that "it [has become] clear that the failure of joint development to meet expectations was the tip of a larger iceberg – namely, the frequent failure of major transit investments in the United States to generate the amounts of transit-related development anticipated and needed to generate the long-term ridership essential to justify the capital investment in transit."

In fact, as an illustration of the difficulties, BART is spending about $1 million per year on relationships with the five cities on its southern extension to San Francisco Airport, just in order to avoid city opposition!

This finding is consistent with the fact that in any large scale development activity such as this, the level of complexity of the project and the number of entities to be dealt with require concentrated attention to inter-jurisdictional cooperation. In order to approach the *ideal partnership* for station development, there needs to be a focused effort and sufficient resources placed on development priorities. This will help in solidifying city and county interest in and support for the project and reduce the pressures that may be placed on them to find flaws and faults.

Nevertheless, because the CHSRA is a new entity with no pre-existing relationship with any of the cities or counties involved, the opportunity is present to set the tone for a new and mutually beneficial relationship. The analysis of the systems surveyed and the

literature reviewed suggests a number of activities that could position the CHSRA to develop some form of partnership with many of the cities in the planned corridor.

CONCLUSIONS AND RECOMMENDATIONS

This report was commissioned to answer the following question: What strategy should the Authority take to obtain local agency participation in station development, revenue sharing and financial participation?

The simplest lesson learned from this survey is that local jurisdictions cooperate and financially participate with rail authorities when a project can be expressed in terms of something that the cities want to do anyway. Examples include: redevelop the downtown, expand the airport, or reduce highway congestion. Second, the local jurisdiction's interest in participating can be influenced by incentives -- technical, informational, or financial.

Although our open ended telephone survey is far from conclusive, these are our findings in relation to the CHSRA's initial development plan's three objectives for local jurisdiction participation:

1. Station development – Cases were found in which the city was the lead agency for investing in station development or rehabilitation. However, in new systems, it was not uncommon for the Authority to pay for the station or platform.

2. Right-of-way donation – No cases were found that could verify or refute the possibilities. There were no rights-of-way acquisition issues in the cases surveyed.

3. A. Station oriented development for higher levels of long term system use – There were cases in which the city was the lead agency in the development of land adjacent to the stations. However, significant developments involved multiple layers of government as well as various private investors – so that not just a local government but the chamber of commerce, Governor, State Department of Transportation or other player can take the lead. The lead role was often played by the rail authority in cases where the authority owned some of the land.

   B. Station oriented development leading to value capture by the rail authority – There were no cases where the value captured by the authority was more than proportional to the investment made by the authority in the development.

Land Development Strategy

Three main approaches to local participation in station or land development projects were identified. Opportunistic and tactical approaches are more passive – wait for

cities or other agencies to bring projects forward. The strategic approach is active – promote land developments that will complement the rail service.

If the Authority can determine from the Outreach, Joint Development, or Economic Impact Teams that the high speed rail corridor is populated with cities that are currently working on development projects that complement the high speed rail service, or are actively working on plans to accommodate the high speed rail service, then an opportunistic approach would probably be most cost-effective.

If the corridor has a mix of jurisdictions, some prepared and some not, or some with strong anti-growth political forces, then the strategic approach to land development would probably be most cost effective.

The MTDB in San Diego provides a model for the Authority to consider using. To adopt a land development strategy using this model, the Authority would:

- Articulate a set of land development principles for each of the situations that high speed rail might face. For example, transit oriented development (TOD) has come to mean mixed use, high density, in-fill developments adjacent to light or heavy rail platforms. What is a comparable vision for high speed rail station oriented development (SOD)? Are high-end retail, hotel, intermodal connections, and office buildings the right ingredients for a high speed rail station oriented development in every context along the corridor? Is there a role for housing? The Authority should anticipate a variety of development situations and consider adopting several optional land development models such as TOD, one or two versions of SOD and a hybrid. The politically charged question of conversion of agricultural land in the central valley should be addressed by these principles.

- Participate in the policy forums that have influence on regional land use policy in each segment of the corridor. These could include the metropolitan planning organization for each region, local jurisdictions, redevelopment agencies, and community groups interested in land use decisions. Attempt to fit the appropriate land development principles to the local context so that each region adopts a set of consistent high speed rail-supportive land use policies. This would be reflected in the Regional Growth Management Strategy, general plans, development guidelines, Authority's Policy on Joint Use and Development of Property, community plans, specific plans, zoning code updates, and so forth.

- Provide ongoing education for the public, private sector and politicians that emphasizes the benefits of combining high speed rail with certain land developments. The materials could include model plans, case study examples (on high speed rail and airports for Visalia or high speed rail and central business district renewal for Fresno), articles, brochures and so forth. These materials could also be included in the package taken to the voters. Distribute these materials at community

forums and workshops. Consider sponsoring a conference featuring presenters from cities such as Warwick, Rhode Island which have addressed land use planning in conjunction with high speed rail in their communities.

- Take project specific actions to ensure that high speed rail-supportive land uses are considered in specific projects. These actions include positioning the Authority to conduct development proposal reviews, provide model zoning codes and so forth. It might even be possible to develop relationships with a set of financial institutions generally interested in investing in high speed rail-supportive land developments. In other words, the Authority should complete as much of the work of the development process as possible in order to reduce the burdens on public and private partners while documenting the benefits of becoming a high speed rail partner. The survey indicated that institutional capacity of participating agencies can limit the scope of a planned development.

In addition to adopting policy on a land development strategy and staffing the effort, the Authority should evaluate the organization of the corridor cities that would best facilitate communications and action. Instead of a "summit" which has been suggested as a possible consensus building device, each segment might be treated discretely. This suggests a series of segment summits that can more closely address the concerns of the corridor cities.

That is, the local jurisdictions in each segment probably share transportation needs, economic needs, and environmental constraints. Smaller groups can meet more regularly. A city-champion should be sought and might more readily emerge in each segment on the basis that their development plans would drive economic benefits for the entire region.

The Authority might want to form an advisory commission or ultimately a joint powers authority consisting of the cities in each corridor segment. The survey found several examples where relations between the rail authority and the cities benefited from this type of relationship.

Finally, the Authority and consultants alike should remember that the first task is for the Authority to build a business relationship with cities and other local players which is perceived as win-win-win for all parties involved. The legal process involving formal agreements will build on the business relationship. Further, the relationships will take time to mature, so it is to be expected that many of the joint development benefits will not be realized until the high speed rail is operational, established and has an identity in the community as an asset and a resource.

APPENDIX

IT IS IMPORTANT TO NOTE THAT THE RESPONSES PRESENTED REFLECT THE PERCEPTIONS AND PRIORITIES OF THE INDIVIDUALS INTERVIEWED. THEREFORE, THE SPECIFIC FOCUS OF THE INFORMATION VARIES FOR EACH AGENCY DEPENDING ON WHAT THE INTERVIEWEE FELT WAS RELEVANT TO THEIR PROCESS.

I. OPPORTUNISTIC APPROACHES

FLORIDA OVERLAND EXPRESS -- FOX

Unfortunately, during the conduct of this study, Florida Governor Jeb Bush cancelled the FOX franchise by redirecting funding for high speed rail to other projects he believed would be more closely related to congestion mitigation and economic development..

Nevertheless, because FOX was planning to offer a high speed rail service, the FOX plan as it involved city relationships, station development, and land use development can provide useful information to this study. Therefore, this discussion is presented in more detail than others.

The Florida Legislature passed the High Speed Rail Act that authorized a franchise agreement with a private entity. The Florida Overland eXpress, a consortium of private corporations, had a 40 year franchise. Operations were to begin in 2003.

The Florida Department of Transportation (FDOT) and FOX were partners. All fixed facilities were to be owned by FDOT. This included rights of way, track, and stations. FOX would own the rolling stock/engines and be responsible for operations and marketing.

The revenues were to be distributed by a complex formula. In general, the bills would get paid first, then the bonds, and then the split between FDOT and FOX. However, FOX had a guaranteed minimum.

The project was to take advantage of some innovative financing. One third of infrastructure cost was to come from bonds against system revenue; one third from the Transportation Trust Fund (gas tax revenues to pay bonds); one third from TEA21 for transportation finance innovation provisions.

Total capital required was estimated to be between $6.3 to $7.3 billion.

Cities

The interviewee stated that Florida metropolitan planning organizations are parochial and don't tend to get excited by statewide projects. FDOT would love to attract city investment in the stations but had not tested that prospect, in part because FDOT was unsure of city support. For example, South Florida was opposed to the project.

Land Development

First, permits are required. There is the State certification and also EPA approval. There is also the need to be consistent with the localities' general plan.

Second, if FOX chose to build a hotel or office complex and it could get a permit (as per above), it would have to show that the income generated by the development would be going back to the system as revenues. This is required because of the financial partnership with the State described above.

In order to encourage development, FOX was free to approach city officials on a city by city basis. However, the cities viewed tax increment benefits at stations and any special taxing around stations as city money.

The financial plan did not include value capture related to adjacent land development. This is because of its inclusion in a previous attempt to develop high speed rail in Florida that was proposed and defeated between 1986-1990. The failed plan had attempted to finance the entire system from the value captured from unlimited property development rights. Financial analysis found that a $500 million subsidy from the State would have been required. As a result, the political climate required that the system pro forma worked on the basis of fare box revenues only.

Stations and Parking

The system was planned to include seven stops: Miami Airport, Broward County, Palm Beach County, Orlando International Airport, Orlando attractions area, Lakeland, and Tampa.

Miami Airport was planning a new intermodal center to include Tri-Rail Commuter, Miami Metro, and a car rental hub. It would have also included the FOX service. There was new station development and more at the Orlando Airport. FOX service at Fort Lauderdale had planned to use the Seaborne Airlines Station that is currently used for commuter rail and Amtrak.

The other four stations were to be the responsibility of FOX in partnership with the FDOT. As per the arrangement, the State would own the fixed facilities including the four stations.

FOX had the right to design the stations. The location of the Miami and Orlando stations had been determined to within a ½ mile of their ultimate site. The other locations were more flexible at this stage.

In general, most developable land in the corridor has already been planned. FOX wanted to put the system where the market already exists. In support of that approach, FOX analyzed potential ridership with an origin and destination study consisting of 30,000 interviews.

Amtrak

The Amtrak North East Corridor is the most advanced high speed rail system in the United States. Trains with speeds of 150 MPH are expected to be in service by October, 1999.

Amtrak has provided $800 million for financing for the North East Corridor high speed rail service. Amtrak wants to develop higher speed routes and can provide engineering, procurement, economic planning and financing.

Cities

Amtrak does not systematically cultivate relationships with cities.

Land Development

In general, Amtrak does not treat real estate development as a strategic concern – it tends to react to development opportunities rather than actively seek them out. The Richmond, Virginia opportunity mentioned below is a case where the City approached Amtrak as part of the City's central business district redevelopment efforts. The single strategic move made by Amtrak in this area was funding the Great American Station Foundation to promote station revitalization.

Stations and Parking

For the most part, the stations already exist and restoration is the issue. In the North East corridor, there is at least one new stop where a station does not exist – Route 128. Another, the New London Station, is replacing one they don't own which will be closer to the tracks and more convenient for passengers.
Historically, Amtrak has not owned many stations and has not paid much attention to them since stations for Amtrak service tend to be remnants of previous commercial rail passenger service. Cities, rail companies, or other private interests often own them.

Amtrak is seeking to attract a specific type of traveler for high speed service. These tend to be business travelers rather than vacationers. Therefore, when Amtrak

considers development options, they would not follow the TOD model as practiced in San Diego, Portland and other places advocating the “new urbanism” (high density, mixed use in-fill developments). Instead they would concentrate more on station oriented development (SOD) for high speed rail which could include business service centers, hotels, high end retail and inter modal connections (car rentals, commuter rail, air port shuttles).

NEW YORK STATE TRANSIT AUTHORITY

The authority does not operate a train service but controls a number of rail systems including the New York Transit Authority, Long Island Railroad, Metro North Commuter Railroad, and the Triborough Bridge Authority. It sets policy for these systems, establishes the capital budget, and staffs the Real Estate Department.

Cities

Land use control is kept local in their region. The counties and the State are not really involved. Development occurs on a town/village patchwork. New York City is an exception.

Land Development

The Real Estate Department has no overall policy and tends to handle inquiries on a case by case basis. They are not aggressive and do not seek out opportunities for transit oriented development. The Authority primarily owns its 60-foot right of way.

Localities are becoming sensitive to dialogues about the sense of place. There is a growing “culture of renewal” in villages and towns. The focus in general is improving their central business districts. In the last few years, localities have begun to seek out the MTA as a possible partner in their downtown revitalization plans.

The transit oriented development concept may be an idea whose time has come in the New York region. However, its spread will occur between cities, and not through the rail authority.

Stations and Parking

Historically, private developers built the stations and deeded over parking areas to local municipalities. These municipalities currently operate the parking for the MTA. In a few cases, the MTA leases this property and operates the parking itself.

When renovation, rehabilitation or remodeling of an existing station is required, the MTA will contribute to the funding. Sales taxes which pay for transit services go to operations and not capital projects.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

The MBTA is responsible for rail service to 78 cities and towns in western Massachusetts. Most of the system has been in place for years but extensions over retired lines are still being added.

Stations and Parking

The MBTA or its parent holding company, the Economic Office of Transportation Construction (EOTC), owns all rights-of-way and stations. These are independent authorities with the ability to acquire land by eminent domain. This power was used in some cases for parking lots adjacent to stations along the new extensions.

Land Development

Neither the MBTA nor the EOTC pursues a joint development strategy. The MBTA does not object when other agencies propose projects in conjunction with the rail system. For example, the University of Massachusetts donated land to the MBTA for a campus station.

Cities

The MBTA does not solicit cities for development opportunities.

CHICAGO REGIONAL TRANSPORTATION AUTHORITY

The RTA is the parent company of the Commuter Railroad Corporation. Operation of the 495 mile system with 230 stations is supported by a sales tax.

Stations and Parking

Stations are owned by municipalities or private rail companies such as Burlington Northern or Union Pacific. In many cases, the railroad owns the asset and has a long term lease with the city for $1 per year. The city is responsible for operations and maintenance.

Land Development

The RTA does not have a strategy for joint development. It commissioned a study in 1994 that attempted to show how to improve the link between station-adjacent retail merchants and commuters. This information was distributed in the form of brochures to local governments and chambers of commerce.

Cities

The RTA reacts to projects proposed by cities or private developers. In one example, a private developer built a residential condominium on RTA land and donated one of the condos as a small rail station. In another case, the RTA purchased vacant land from the local gas company and let the city determine its development. A big box retail was built and the RTA received cash, a new rail station and additional parking spaces for commuters.

SOUTHEAST PENNSYLVANIA TRANSPORTATION AUTHORITY

SEPTA has taken an opportunistic approach to joint development. The City of Philadelphia has taken the lead in many of the projects.

The most recent focus of interest was at the North Philadelphia station which is a stop for both Amtrak and SEPTA trains and an area of disinvestment. The City and SEPTA envisioned a multi-modal transit area that would become the basis for additional housing and retail development. Unfortunately, Amtrak and SEPTA each pursued their own projects without coordination and the City failed to get the area designated for redevelopment.

II. TACTICAL APPROACHES

LOS ANGELES COUNTY MTA

The travails of the MTA are well known. The high profile impacts of these difficulties include the abandonment of subway construction and the loss of the Pasadena light rail system to a new rail authority.

One of lesser known impacts has been the elimination of the joint development program. Its demise was hastened by the sluggish regional economy that existed through the early 1990s.

It is not clear what remains since the function is being reorganized and has been combined with other areas. They are planning to do an analysis of many of their sites for joint development potential in the near future and then assess what direction to take.

One of the more complex accomplishments of the past was development of the Gateway Building and retrofit of Union Station for access to the Metro Red Line subway. The agreements included:

- formation of a private non-profit corporation to design and build the Gateway Building.
- a significant ownership split involving ownership rights of land and air rights
- a multi-modal bus-train terminal
- a joint development agreement on station operations, management of parking garage

SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY

Stations and Parking

The nature of SCRRA's inception limited its participation in station development and station oriented development. It was able to begin service in 1992 after a very short planning period because it purchased the rights of way or shared operating rights of active operating freight rail systems. Since the operations were on existing rights of way, there was no requirement for environmental reporting activity and approval. If it had gotten involved in station development, there could have been a three year delay having to deal with the additional environmental requirements.

As a result, the SCRRA's position to cities was, if you want a station then you have to provide it. Minimum station requirements were set - platform length, placement of ticket vending machines, etc. The Authority did not want to discourage city participation so some stations are closer together than they might otherwise have

been, but this has not posed a problem. Each station is owned, operated and maintained by a city. The one exception is in Riverside County and is owned by the Riverside County Transportation Commission.

Land Development

There have been a few small transit oriented development successes At the Sylmar Station in San Fernando, there are 120 single family homes going in around the station. There is child care there already and bus service is being added.

Two other stations have child care services. The Newhall Station in Santa Clarita is being used as the center of redevelopment of Newhall.

However, consistent with the Authority's policy of leaving station developments to station-cities, the Authority has virtually no land use policy of its own.

Cities

The cities are responsible for providing the first thing that an SCRRA passenger sees - the parking and the station. This includes providing parking spaces, lighting, landscaping, pedestrian connections, and security. The Authority must show each station-city how these on-going services provide benefits to the city (and its citizens).

Therefore, the SCRRA recognizes the need to forge a supportive relationship with station-cities. In what is referred to as a "working partnership," the Authority invests some of its resources in order to increase the importance of the stations. For example, in order to give something back to the community and also promote the train station, the Authority has produced events at certain stations. These include a weekly farmer's market in Chatsworth, and two Depot Jazz Series concerts at the Claremont Station. Claremont was chosen for this because of its relationship to the central business district which is among the more pedestrian friendly in the region.

The Authority has also held conferences on its last two anniversaries and used these events as opportunities to promote transit oriented development and livable communities, as well as revenue options such as advertising at the station.

Structurally, the Authority has formed six working groups from the station-cities and meets with them regularly to identify needs and promote transit oriented development. Another strategy for maintaining good relationships with station-cities is that some of the members of the SCRRA Board of Directors have been elected officials from the station-cities.

III. STRATEGIC APPROACHES

TRIMET, PORTLAND

This is perhaps the most unusual situation in the United States in terms of the consistency of policy between levels of government and the public transit authority.

The City of Portland's Central City Plan of the mid 1970s was the first step in positioning public transit as a tool for livable communities. The region then created a regional government and adopted an urban growth boundary in 1979. In 1990 the regional government acquired land use authority. This means that local governments must make their land use plans conform to the regional plan. One key to this unprecedented level of jurisdictional cooperation may be that Oregon has no sales tax and so there is no competition to build regional shopping malls.

Land Use

Even though Tri-Met operates the commuter rail and bus systems, it has a land use goal in its Strategic Plan – "Using public and private partnerships, help assure that a majority of all new housing and jobs inside the region's urban growth boundary are served by the primary transit network within a 5-minute walk."

Organization follows strategy. Staffing for implementation of this strategy varies according to the development activity in the region. Currently the staffing includes 1 full time assigned to land development, ½ of the department head's time on land use, small parts of several other people who review and comment on development plans which is about the equivalent of 1 full time equivalent (FTE), ½ time of a project architect. This amounts to about three full time positions. The high point was during the period of west side development when this department had eight FTEs dedicated to land use.

Cities

Tri-Met participates in all regional land use policy forums and works "hand in glove" with Metro (the regional government).

The TriMet partnership with cities involves avoiding a power struggle with them. Tri-Met advocates and educates and provides the tools. For example, Tri-Met will reimburse cities for staff time and for consulting studies. It also publishes a great deal of support materials that identify a robust array of joint development projects.

Stations

All train stops are referred to as stations although only the multi-modal stops are what others might call stations. The rest are platforms. The east side has 5 stations and 20 platforms.

In almost every case, Tri-Met paid for the platform/station. The convention center paid for the station located on its site, and the City and a neighborhood paid for another that was added after the plan was complete.

MTDB, SAN DIEGO

Like the CHSRA, the MTDB has no direct control over local or regional land use decisions that affect the success of the rail system. Yet, the MTDB has established a record of transit-land use integration in its region.

First, the MTDB adopted a set of principles to guide TOD at its stops. These are more or less those associated with the "new urbanism" – high density, mixed use developments at rail stops and along transit corridors.

Second, it developed four strategies for promoting its TOD principles. These are:

1. Join the policy forums with influence on regional land use policy. These included the metropolitan planning organization for the region, local jurisdictions, and community groups interested in land use decisions. In addition, the MTDB shared a staff member with the City of San Diego dedicated to promoting transit and transit supported land use.

   As a result, local jurisdictions in the market area have adopted a set of consistent transit-supportive land use policies. These include the Regional Growth Management Strategy, San Diego Progress Guide and General Plan, City of San Diego Transit-Oriented Development Guidelines, MTDB's Policy on Joint Use and Development of Property, Community Plans, Specific Plans, Zoning Code Update, and the City of San Diego Transit Planning and Development Policy.

2. Take project specific actions to ensure that transit and land use are considered jointly for specific projects. These actions include development proposal reviews, memoranda of understanding, and a redevelopment project master plan.

3. Provide ongoing education for the public, private sector and politicians that emphasizes the connection between transportation and land use. This includes community forums and workshops, a "Designing for Transit" manual, a video tape, and a brochure.

4. In addition, in 1986 a 'council policy' was adopted on transit planning and development. This policy essentially established the City as a partner with the MTDB in the development of public transit in the San Diego area.

BAY AREA RAPID TRANSIT AUTHORITY

Two parts of BART were surveyed. The first is the real estate group that is responsible for encouraging joint development at existing stations.

BART Real Estate routinely works on putting parking lots and other concessions out to bid. In some cases, it is engaged in a defensive process to keep cities with stations from approving developments incompatible with its rail system such as big box retail or light industry (currently planned in Union City). In some cases, it plays a facilitation role with TOD initiated by the local government such as the Transit Village at the Fruitvale Station.

BART influence varies by city depending what parking facilities BART owns. At the Ashby Street Station in Berkeley, BART recently approved a TOD on the BART-owned adjacent park and ride lot. The City of Hercules is interested in a similar development on current parking. Yet there are places where BART has no control, such as El Cerrito, which is redeveloping a shopping center adjacent to the rail line.

BART keeps staff at each station which allows the system to provide restrooms, fare gates, sheltered seating and station agents throughout the system.

The second part of BART that was surveyed is the Extensions Group that is in charge of building the southern extension to San Francisco Airport (SFO). Because new construction is involved, their approach is more applicable to CHSR.

The Extension passes through five cities. BART has a participation agreement with each that was negotiated by a team of lawyers (3 lawyers, 1 manager, 1 tracker for 2 years). The agreement describes all areas of mutual and individual interest from the tidyness of the work site to maximum noise levels. These were just 5 of 280 agreements that BART negotiated for this extension. Other agencies with agreements include SFO, City and County of San Francisco, Caltrain, and Peninsula Corridor JPA.

In order to implement the agreements with the cities, a complex outreach program was established. BART hired a team of consultants to provide a separate liaison to each city. This was required because each city sees itself as special and unique and oriented to itself not to San Francisco nor San Jose.

A central issue was money. Each city took the position that BART "would not get one dime of our money." There was also distrust of a regional agency seemingly representing the interests of the urban centers.

Another concern among the cities was that this BART extension would somehow destroy Caltrain. Even after the cross platform connection at Millbrae was approved, the concerns continued. This was highlighted by the interviewee as an illustration of how fears can affect relationships between cities and the rail authority.

This city relationship team is currently most concerned with complaints or issues involving the heavy construction. In order to address these issues, every telephone call, letter or rumor is tracked on a board until it has been resolved. One means of resolution is an in-person at-home presentation with refreshments for home owners and their neighbors. There is also an on-going program of presentations to garden clubs, Chambers of Commerce, Kiwanis and so forth. Status reports are given every two weeks to each City Council. The Outreach Team works "hand-in-glove" with the Agreements Team.

The cost of this effort to avoid conflicts with the cities is about $1 million per year for the three year construction period. BART is paying for each station with costs varying from $30 million in South San Francisco, $60 million in San Bruno and $175 million in Millbrae. Millbrae will be a multi-modal center which is being built to accommodate high speed rail service. BART will operate and maintain the stations.

BART encourages TOD and provides information but each city is responsible for its own plans. Millbrae has been the most aggressive with plans for redevelopment of its downtown keyed to the new intermodal station and BART service. Ironically, a minority of citizens in Millbrae initially tried to stop the BART extension with a ballot measure.

VALLEY TRANSPORTATION AUTHORITY, SANTA CLARA COUNTY

The VTA opened the first segment of a 21 mile light rail system in 1987. The entire route was operating in 1990-91. The route crosses 15 cities. When it opened, VTA was a transportation district under the County whereas today it is an independent authority.

Stations and Parking

When light rail was first planned here, they had no information on the need for park and ride lots. The only local example was BART, which had experienced a high demand for parking. In practice, VTA experienced much less demand for parking as a higher proportion of riders than expected were dropped off or walked.

The VTA purchased the land for park and ride lots and for the platforms. Except in the San Jose CBD where the City owns ROW and VTA operates the system under a permit. Their stations are basically platforms with shelters.

The VTA built the platforms with location guidance from cities. However, it is sometimes difficult to develop the parking lots since they were purchased in 3 or 4 different names owing to the initial status as a county agency. Each lot was financed with money from cities in varying proportions.

Land Use

VTA first got involved in land development with a 1990 feasibility study on converting their under used parking lots to high density mixed use developments. Not much actually got developed however.

Today, VTA's Strategic Plan includes a goal to integrate transportation and land use. It plans to offer a package of incentives and tools designed to encourage local governments to make land use decisions which enhance the effectiveness of the transportation system. VTA also will form formal partnerships with the cities and the County to ensure that transit oriented specific plans are adopted along existing and future rapid transit corridors.

Cities

VTA has approached its cities regarding TOD but cities hold land use decisions near and dear. VTA plays an advocacy role (trying to educate about TOD) and participates in general plan update and specific plan development. It occasionally conducts surveys in support of the development plans of individual cities, e.g., a 1995 rider survey.

San Jose has been a leading innovator in TOD. San Jose with a need for 10,000 new housing units identified vacant or under used land along the transit corridor. It changed zoning in these districts to a minimum of 20 DU/acre with no maximum. It has seen 4,000 units built with another 5,400 approved.

VTA has done concept planning on the extension and invited cities to participate and to identify available parcels that would complement the transit platform. Cities are then expected to work with their own citizens on the concept.

Some cities are more advanced than others and so a few have initiated relationships with VTA. These include San Jose, Mountain View (100 single family dwelling units at higher density than normal at a transit stop), and Sunnyvale.

SAN JOAQUIN REGIONAL RAIL COMMISSION

This is a 1-county council of governments (COG) that oversees distribution of revenues from a ½ cent sales tax designated for transit. In October, 1998, it also began operating the Altamont Corridor Express train service which runs between

Stockton and San Jose (with seven stops). The COG is interested in developing multi-modal facilities tied to rail.

The COG as rail authority has taken an innovative approach to rapid development of stations along the Altamont corridor. It prioritized the placement of platforms and encouraged the individual cities to view them as redevelopment opportunities.

One example is the proposed location of a new Stockton station. Both Amtrak and the Altamont Corridor Express currently use the platform at the old Santa Fe Station south of the central business district. The COG and the City are interested in developing the old Southern Pacific rail station on the eastern edge of the central business district. The site is improved with a 2-story brick building. The City of Stockton approved new housing developments in the area as part of an overall redevelopment strategy around the station site. It has also provided funding for mixed-use facilities at the station. The first floor will be devoted to rail. The second floor will contain office space. The rail commission contracted for all environmental-related work and for design. The MPO acting as the rail commission also provided funding for parking lot improvements.

The COG includes many diverse interests in its planning processes. City and property owners all take part and there is room for more private sector participation. The COG believes that it is the responsibility of the transit authority to identify the transit benefits of a project. All of the other actors are primarily interested in redevelopment opportunities whether or not there is a rail component.

For example, Lodi has an Amtrak stop but it is developing an Altamont Corridor Express station at an old Southern Pacific site where there is presently no service. The City of Lodi has not previously been involved in station development but it does have an aggressive central business district development underway. Lodi is attempting to maximize the rail authority's efforts by improving street paving in the vicinity of the station, by channeling loans to businesses that relocate in the area and by making add-on redevelopment spaces available for other uses.

IV. SPECIFIC CITY PROJECTS

Several cities were included in the survey in order to gain insights into how and why cities become motivated to build station oriented developments and what role rail systems should play from the perspective of the city.

Warwick, Rhode Island

Warwick is a sprawling 85,000 population suburb of Providence. The city wants to gain the maximum economic benefits from the Amtrak high speed rail service when it begins in October, 1999.

The City plans to create a Station District on the 1,500 foot long, 70 acre parcel that is between its regional airport (T.F. Green Airport) and the rail corridor. The development is planned for a major hotel, offices, conference center, and high-end retail. The train station and air terminal will be connected by an automated people mover system

The catalyst for this effort was a $200 million upgrade of the air terminal which was facilitated by the Governor. The new terminal, completed in 1996, featured new air service from Southwest Airlines. This resulted in a 50% decrease in ticket prices and an increase in passengers from 1.8 to 4.8 million per year. Greene is the fastest growing airport in the U.S.

The lead agency has been the City. However, Warwick Mayor Chaffee enjoys special circumstances being the son of U.S. Senator Chaffee from Rhode Island. One manifestation of this relationship was $25 million of federal support for infrastructure development. The State Department of Transportation contributed $30 million for the new station and people mover.

The City rezoned the entire parcel and created a Station District Redevelopment Agency with permit and condemnation authority. This Agency was created with a Board consisting of representatives from the State DOT, airport, State Economic Development Board, past President of the Chamber of Commerce and a professional at-large expected to be an architect.

The urban dynamics include an economic resurgence in Providence (12 miles north) with a new convention center and a shortage of hotel rooms. The expense of Boston office space is also expected to make Warwick's Station District an alternative to the Boston office market. With high speed rail service, Boston will be only 32 minutes away. This proximity may also link Warwick's housing market to Boston.

Amtrak provided 2 staff people to help with the planning and to help the State DOT design the train station.

The Governor has played a significant role by coordinating the project with the Federal Railway Administration, the Federal Transit Administration, the Amtrak Board of Directors, and the State Environmental Management Office – the latter due to the existing brownfield condition and the possible presence of Native American artifacts. This institutional participation is considered a key to success.

Rennselaer, New York

The Amtrak station that serves Albany is located across the Hudson River in Rensselaer (population 8,000, mostly blue collar and insulated). The Capital District Transportation Association (CDTA), the bus operator for the region, is renovating

and expanding the City-owned station. The complete development includes the train station, track work and platform, a new parking structure, and an auto bridge over the tracks.

The CDTA's motivation was to enhance the economic climate and improve the appearance of the Capital Region. Many upscale and potentially influential commuters pass through what is a dilapidated station on a daily basis. Another reason for the investment is that the Albany to New York City route is heavily traveled, and Rennselaer is the junction for trains from Boston that merge for trips to and from Chicago.

The new 80,000 square foot station will replace the existing 20,000 square foot facility. This includes 67,000 square feet of office in the station and 6,000 square feet of retail. Amtrak will become the major tenant of the office space.

New York State has home rule for zoning and site design. Regional authorities are held in distrust – although that is slowly changing.

The CDTA has only so much institutional capacity and could not take on the broader task of station oriented development or transit oriented development at the site. Also, it is in a very rundown area and was therefore not a good candidate for TOD.

The federal government working through the state government provided $42 million (Section 3 Discretionary Capital). The State provided $8 million in local match, did some track work and also provided related road work.

Chicago Union Station Company

Chicago Union Station Company is a subsidiary of Amtrak and owns the station. The facility is over 70 years old and was last renovated in 1989 when the interior was rehabilitated. 100,000 people per day pass through the station from both Amtrak and commuter rail services which terminate there.

Amtrak is planning to add 25,000 square feet of retail space – mostly food services and sundries – and consolidate office space that they are using. The motivation for the investment is asset management – trying to get additional income from the property.

The station is the last remaining rail facility with a grand hall in Chicago. It is frequently used by charitable organization for fund raisers.

The project belongs totally to Amtrak at this point as attempts at recruiting the City of Chicago have been unsuccessful. The district in which the station is located does not need renewal and the City is not motivated to upgrade supporting road and sidewalk infrastructure.

Richmond, Virginia

The City of Richmond is restoring a 100 year old train station owned by the Commonwealth of Virginia which is temporarily housing State employees. Amtrak currently stops at a platform in the suburbs**.** The City's motivation is to complement central business district renewal efforts by having two to five trains per day stop at the restored station. Upon completion of a track upgrade, trains would be rerouted so that there are eight to nine per day at the station. The goal is 19 trains per day along with Greyhound service and an intermodal center.

City staff was frustrated by four rounds of Amtrak internal reorganization that kept changing the project manager assigned to the project. The current project manager has been very helpful.

Amtrak was happy with the suburban rail stop and was not highly motivated to work with the City. City staff drafted an economic impact report, which showed that ridership would improve due to the convenience of a station in the central business district and that Amtrak revenue would increase as a result. Amtrak agreed not to charge the City to stop the trains at the station, although it is unclear now which entity will bear the costs of the track upgrade in the Phase 2 expansion of service.

So far the City has used only government money, much of it from CMAQ. Amtrak has refused to help with either capital or operating expenses. Ironically, the biggest impediment has been the Commonwealth of Virginia which is asking a very high price to sell the building.

Millbrae, California

The City played the lead role in this development. The BART (southern extension)-CalTrain station is within 1,000 feet of the Millbrae central business district. It is one stop from the San Francisco Airport and there are a mix of hotel development and some office and commercial space in the general vicinity.

The City steered BART to the site as the result of a 1994-95 concept plan for the area around the existing CalTrain station. The same City consultant then created a Station Area Specific Plan for 116 acres surrounding the new BART station with cross-platform transfer to CalTrain. The City is encouraging BART and CalTrain to tailor their operations to include bus tie-ins.

A new Airport Hilton has committed to the Specific Plan Area. The Specific Plan re-zoned the 116 acres to allow 1 million square feet of office space, 600 new residences, 200,000 square feet of retail, and up to 1,000 new hotel rooms.

The City's Redevelopment Agency paid for the study. It is seeking an exclusive relationship with a master builder to develop the property. The City also expects to attract a major theatre chain to develop a 20 screen complex on private property adjacent to the 3,000 space station parking lot, which it would need to lease from BART.

This Specific Plan should receive $100 million of investment which would lead to a doubling of the tax base. The City is assessing development fees to pay for road improvements and other capital improvements in front of the transit facility. The City wants to avoid using its General Fund for those purposes.

BART paid for the station development. It resolved a conflict over how to provide bi-directional access to the station by asking BART to use CEQA funds to pay for a new grade separation and a $5 million, 300 space parking garage (in addition to the 3,000 space lot).

Ronkonkoma, Long Island, New York

Ronkonkoma is a low density suburb east of Manhattan. The rail service was recently converted from diesel engines to electric. It is, in fact, the last station on the electrified line. This cut the commute time to Manhattan from 1 hour 20 minutes to 1 hour. This increased the popularity of the service as the station now attracts commuters from further west. It is a high volume station with 6,000 boardings per peak AM hour per weekday.

The MTA used federal money to build a 1,000 space garage on its own land and entered into a partnership with a private entity to build a new train station with retail for lease and an adjacent public park. The retail was built with overhanging roofs and in a design that reinforced the sense of place. However, there is a high vacancy rate and the real estate market is generally depressed.

This was an MTA initiative with the City playing a support role. The MTA did not attempt to leverage City money, but the City supported the project by rezoning around the station, creating a specific plan for the area, and creating an economic development zone.

One benefit has been that neighboring towns like the development with the new train station as focal point and have begun to think about making similar improvements.

San Diego, California

MTDB has been involved in a number of joint development projects, most often through capital investment or land that it owns.

The MTS/James R. Mills Building was a joint development of the MTDB and the County of San Diego. Financing was provided by a Joint Powers Authority formed by the MTDB and the County which sold $43.6 million in tax exempt lease revenue bonds, secured by the lease of 70% of the building to the County. The MTDB leased 20% of the building for its corporate offices. The MTDB owned the land and it built the station into the building as the trolley system passes through the base of the building.

America Plaza is 34 stories with 570,000 square feet which cost $172 million. It was a joint development of the City's redevelopment agency, the MTDB, and a private developer, although the MTDB contributed only $1.2 million. This financial participation was presumably in order to include a covered transportation arcade in the building which functions as a trolley transfer center.

National City Adult Education School was developed by the National City Community Development Commission on land owned by the MTDB originally planned for a park and ride lot at the 24th Street Trolley Station. The facility was leased to a local school district for $1 per year in exchange for an agreement to operate the school. This is a two story building with 20 classrooms that cost $4.5 million to build. This joint development project addressed community development and transit ridership more than project revenue and is an example where livable community considerations took precedence over the highest and best use.

Joint development involved an agreement for shared parking at the Grossmont Station. The station serves a 103 acre auto-oriented shopping center and cinema. This 6.1 acre site which currently contains a 600 car parking lot is planned for a mixed use, high density development.

The MTDB has a master concessionaire contract with a local firm. The contract requires a full range of concession services as well as transit assistance and information at some of the sites. MTDB receives 25% of the gross revenues from concessions.

APPENDIX OF WRITTEN MATERIAL

Financial Feasibility Assessment & Financial Plan, Final Draft, May 30, 1996, to the California Intercity High Speed Rail Commission, by Public Financial Management, Inc., et al

Review of Parameters and Assumptions, January 20, 1999, California High Speed Rail Corridor Evaluation*,* Parsons Brinckerhoff

System Review and Verification, Draft March 5, 1999, California High Speed Rail Corridor Evaluation, Parsons Brinckerhoff.

Technical Memorandum - A Broader Vision, Corridor Evaluation Task 5.3-Operations Integration, March 1999, for the California High Speed Rail Authority, by SYSTRA Consulting, Inc.

California High Speed Rail Authority Institutional Arrangements, June 9, 1999*,* Letter Report to Mr. Kip Field, by SYSTRA Consulting, Inc.

Staff Recommendations for VHS Route Adoption, June 16, 1999, California High Speed Rail Authority

Revised Staff Recommendations for VHS Route Adoption, July 14, 1999, California High Speed Rail Authority

Draft Rail System Plan Report, 1998, Arthur Bauer & Associates, Inc.

Strategies to Facilitate Acquisition and Use of Railroad Right of Way by Transit Providers, September 1994, no. 1., Transportation Research Board, Legal Research Digest, Transit Cooperative Research Program

Legal Issues Associated with Intermodalism, April 1996, no. 5., Transportation Research Board, Legal Research Digest, Transit Cooperative Research Program

High Speed Rail and Transportation Systems: A Future Component of America's Intermodal Network?, (1994) Transportation Law Journal Vol. 22 No. 2, by Brian Kingsley Krumm

"A Shared Vision", July 1999, Progressive Railroading*,* pages 31-36

Draft Proposal for California High Speed and Standard Rail Service, 1994, Michael McGinley, P.E.

FOX High Speed Rail Safety Standards; Proposed Rule. 49 CFR Part 243, 62 Federal Register 65477 (12/12/97)

Passenger Equipment Safety Standards; Final Rule. 49 CFR Part 216, et al, 64 Federal Register 25539 (5/12/99)

Proposed Joint Statement of Agency Policy Concerning Shared Use of the General Railroad System by Conventional Railroads and Light Rail Transit Systems; Proposed Policy Statement. 64 Federal Register 28238 (05/25/99)

Title 23 USC §104 (grade crossing elimination funds for high speed rail corridors)

California Streets and Highways Code Sections 104.12, 146, 150, 670-692